Vegetation Mapping and Applications at Fort Stewart, GA

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Home of the 3ID Mechanized

Purpose of this Presentation

1. Review a practical method of producing an installation-wide vegetation map.

Veg Mapping for Dummies by Dummies

Purpose of this Presentation

2. Applications of our vegetation map

Vegetation Map History

LCTA Original Methods

- Began line transect methodology in 1992.
- Vegetation in southeast Georgia very dense.
- Could only establish 60 plots in 2 years for 280,000 acres.
- Not enough data for statistical accuracy.

This wasn’t going to work

LCTA II

- 1995 Meeting at Fort Pickett to discuss LCTA methods
  - Original LCTA methods did not provide adequate data for individual installation training land decision making
  - More plots than what could be installed with line-transect methods were needed at many installations

LCTA II (cont)

- Workshops were held in 1996 and termed “LCTA II”
- Installations were directed to develop and use methods that they deemed most appropriate to their individual needs.

New Methods at Fort Stewart

- Because of a desire and a requirement given to us to create a vegetation community map, we settled on Braun-Blanquet quadrat methods
  - Ideal for describing vegetation community
  - The methods were relatively fast and could be easily combined with other site describing data
- Established 980 plots in 3 years
  - Allowed for statistical significance
  - Allowed for describing Fort Stewart vegetation communities

Mapping Methods

Photo Delineation

- 1:20,000 scale NAPP photography.
- Communities delineated with pen on Mylar.
- 5 acre minimum excluding “areas of Interest”.

Veg Community Digitizing

- Community lines digitized using Alltek *Elite Line* Digitizing table.

Converting to ArcView

- Digitized lines were converted to an ArcView shapefile.
- In 1996 and 1998 new imagery became available in ArcView and was used to edit the lines file.

Conversion of Lines to Polygons

- Communities were digitized as lines and had to be converted to polygons.
- There were some problems.
  - Double lines.
  - Hanging lines.
  - Etc.

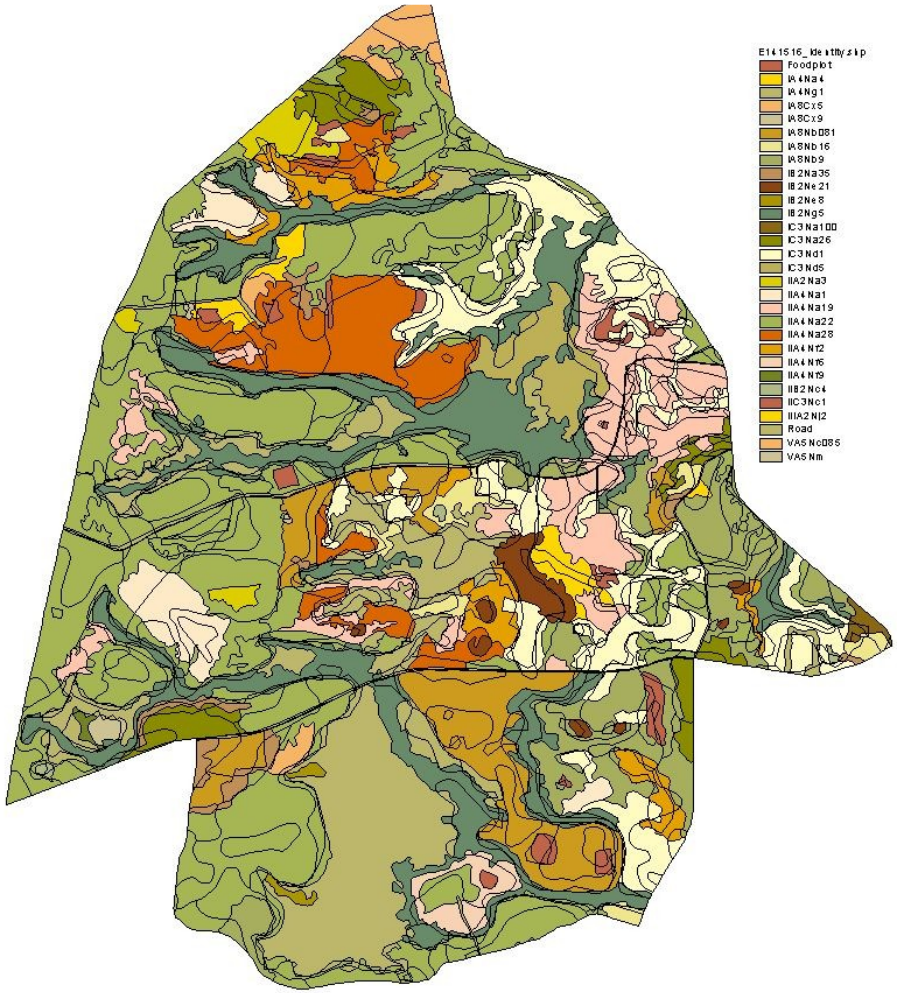
Polygon Naming

- Using the Nature Conservancy's National Vegetation Classification System.
- Named down to the "Alliance" or dominant species level.
  - More map utility.

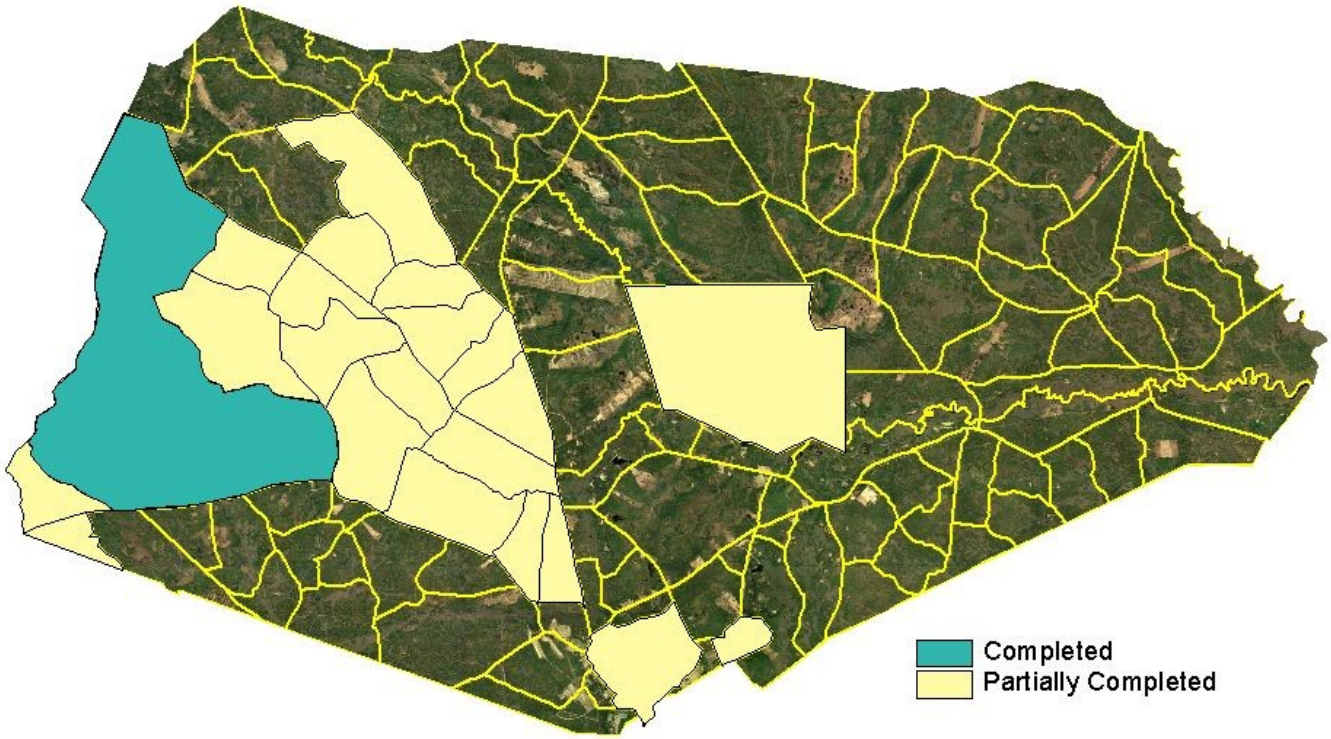
Polygon Naming

- Plots are assigned vegetation Community names based on collected data.
- This name is passed on to the veg polygon the plot is in.
- Extrapolation between like polygons
- Random ground truthing of extrapolated polygons.
- Some difficult polygons are named on the ground.

Training Areas E-14, E-15& E-16



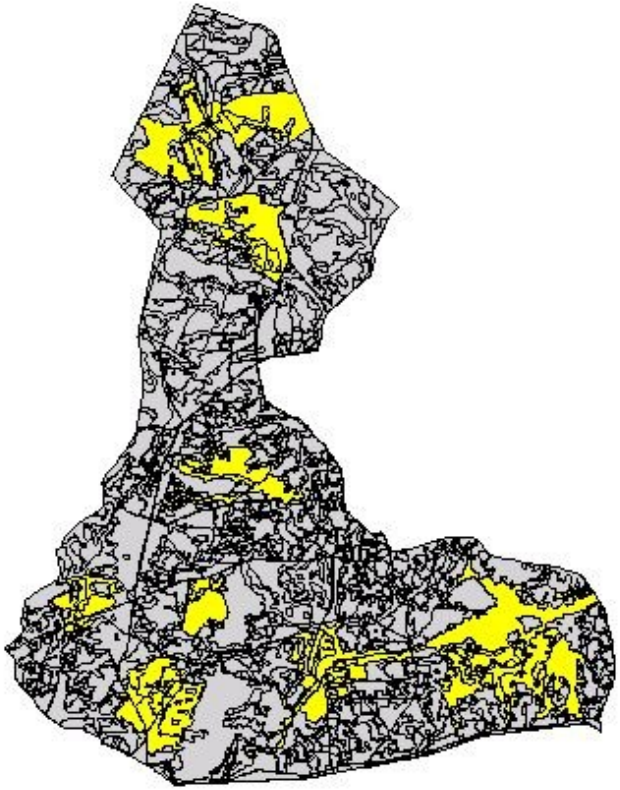
Completed



Applications

Natural Resource Applications

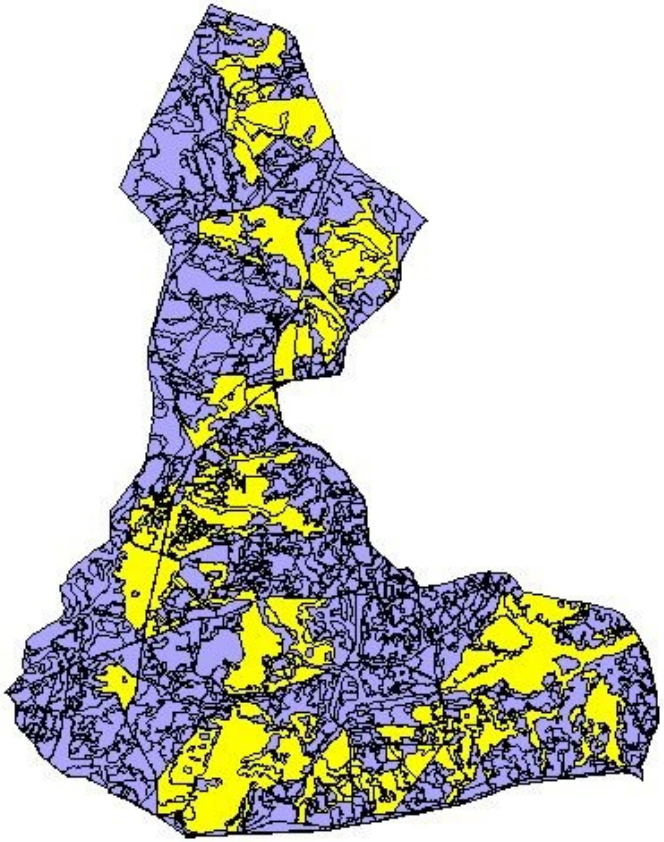
- Identifying floral and faunal habitats (especially TES)



Gopher Tortoise Habitat

Natural Resource Applications

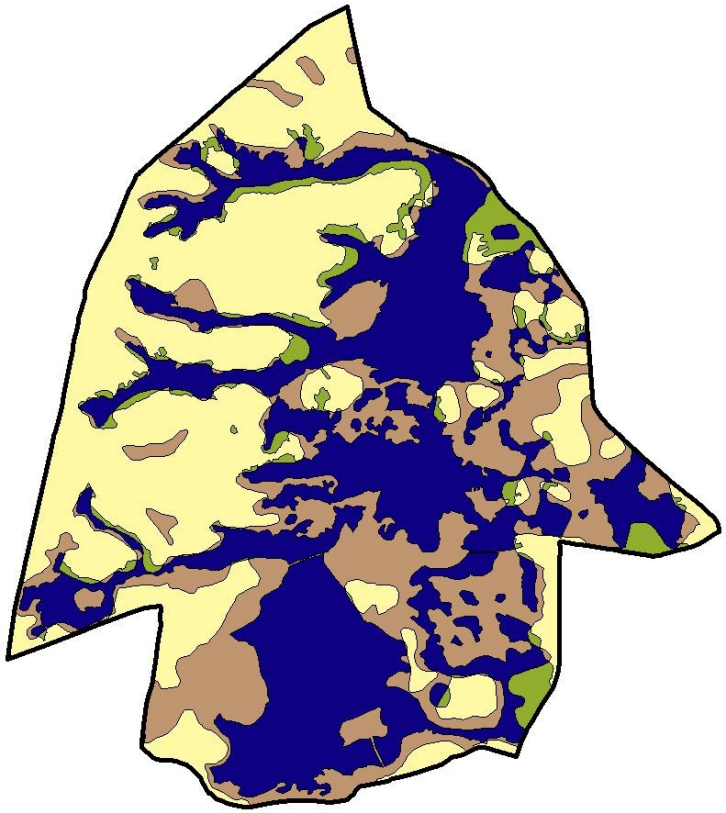
- Locating stands of harvestable timber



Slash Pine Stands

Natural Resource Applications

- Locating potential wetlands



High-Med-Low Wetland Probability Map

Other Natural Resource Management Applications

- Facilitate in the formation of sound natural resources management plans.
- Outlining recreational areas.
- Providing detailed “stand” data.

LCTA Applications

- Monitoring.
  - Help in the placement of plots in different vegetation types.
  - Comparing encroachment of degraded areas or in the rehabilitation of damaged areas.

Land Rehabilitation and Maintenance Applications

- Determine the “best” locations for projects.
- ID potential problem areas.
- Assist in locating high use training areas (used in conjunction with LCTA and RFMSS data and historical knowledge).

Range Division Applications

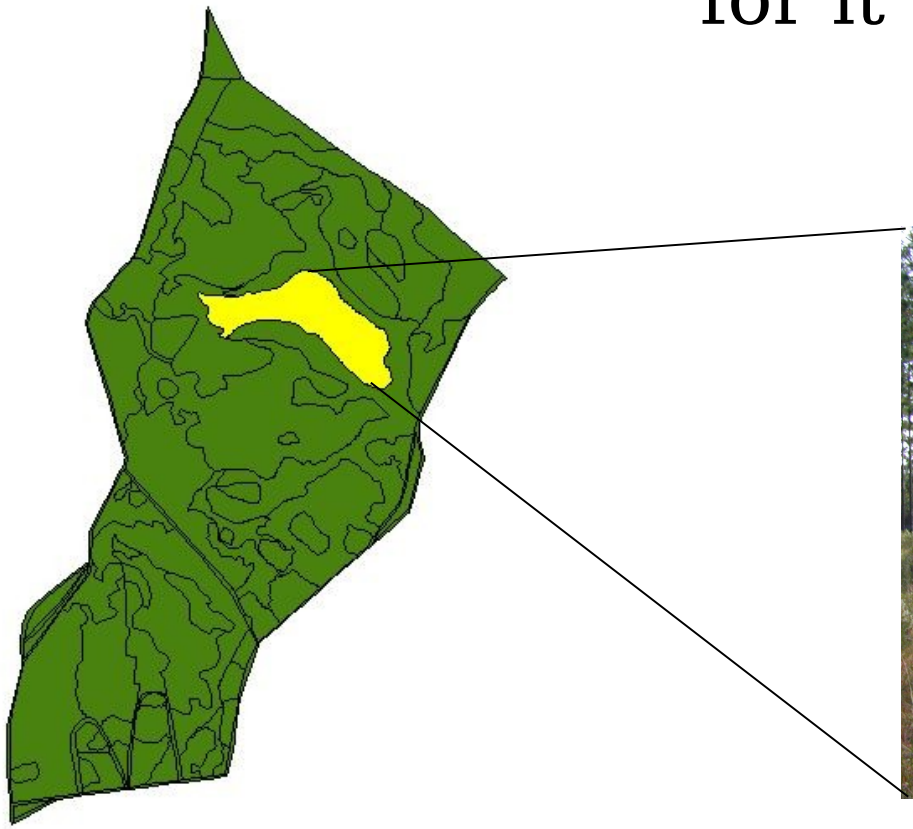
- Assisting the placement of construction projects.
- Assist in range clearing.
- Assist in validation of unit observation.
- Assist in management of training lands.
  - Designate area for thinning
  - Designate areas for certain types of training.

Training Applications

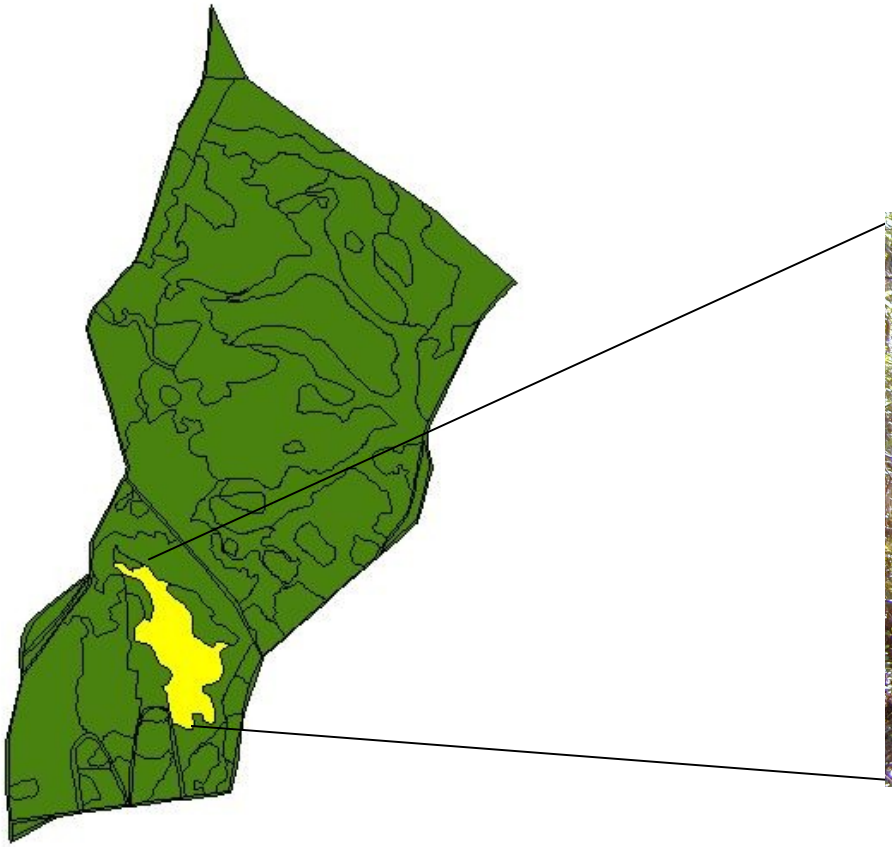
- Verify training data
- Verify commanders observation
- Assist in scheduling
- Trainer's book
  - Online "book" of training area maps and other training pertinent data

Trainer's Book

Classify each vegetation community type according to the types of training best suited for it



Trainer's Book



Trainer's Book

- Ideal training and bivouac areas
- Wetlands, topology, training hazards.
- Off-limits areas including TES, cultrural resources, recreational, forestry, fins and fur, etc.
- Area demographics
- Range improvements, i.E. Low water crossings.

FORT STEWART LCTA Land Condition Trend Analysis

Questions?